

**REMARKS**

Claims 1-32, 34, 35, and 37-43 were pending in this application. Claims 1, 4, 5, 11-13, 27-28, and 31 are currently amended. New claim 67 has been added. Claim 30 has been canceled.

**Amendments**

Amendment and/or cancellation of certain claims is in no way an admission or acquiescence to the Examiner's rejection and is not to be construed as a dedication to the public any of the subject matter of the claims as previously presented. No new subject matter has been added.

Claim 1 has been amended to clarify that the method comprises detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. Support for this amendment may be found at least on pages 23-24 of the specification, as originally filed. Claims 4, 5, 11-13, 28, and 31 have been amended to clarify antecedent basis. Claim 27 has been amended to depend from claim 26. New claim 67 has been added; support may be found on pages 23-24 of the specification. No new subject matter has been added. Entry of this amendment is respectfully requested.

**Claim Rejections – 35 U.S.C. 102(b)**

Rittenberg et al. (J. of Biol. Chem., 1936, v113, p. 505-510)

Claims 1, 4-13, 18-24, and 28-32 are currently rejected as being anticipated by Rittenberg (J. of Biol. Chem., 1936, v113, p. 505-510).

To anticipate a claim, a cited reference must teach every element of the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); MPEP § 2131. Claim 1 has been amended to clarify that the method comprises detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. Rittenberg et al. do not teach detecting an

abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual as claimed in the present application. Because the reference does not teach every element of the claims of the present invention, the reference is not anticipating prior art. Applicant respectfully requests that this basis for rejection be withdrawn.

Rittenberg et al. (J. of Biol. Chem., 1937, v117, p. 485-490)

Claims 1, 4-13, 18-24, and 28-32 are currently rejected as being anticipated by Rittenberg (J. of Biol. Chem., 1937, v117, p. 485-490).

Claim 1 has been amended to clarify that the method comprises detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. Rittenberg et al. do not teach detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual as claimed in the present application. Because the reference does not teach every element of the claims of the present invention, the reference is not anticipating prior art. Applicant respectfully requests that this basis for rejection be withdrawn.

Rittenberg et al. (J. of Biol. Chem., 1937, v120, p. 503-510)

Claims 1, 4-13, 18-24, and 28-32 are currently rejected as being anticipated by Rittenberg (J. of Biol. Chem., 1937, v120, p. 503-510).

Claim 1 has been amended to clarify that the method comprises detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. Rittenberg et al. do not teach detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual as claimed in the present application. Because the reference does not teach every

element of the claims of the present invention, the reference is not anticipating prior art. Applicant respectfully requests that this basis for rejection be withdrawn.

Emken (Am. J. Clin. Nutr., 1994)

Claims 1, 4-13, 18-24, and 28-32 are currently rejected as being anticipated by Emken (Am. J. Clin. Nutr., 1994).

Claim 1 has been amended to clarify that the method comprises detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. Emken does not teach detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual as claimed in the present application. Because the reference does not teach every element of the claims of the present invention, the reference is not anticipating prior art. Applicant respectfully requests that this basis for rejection be withdrawn.

**Claim Rejections – 35 U.S.C. 103(a)**

Rittenberg (J. of Biol. Chem., 1937, v117, p. 485-490; J. of Biol. Chem., 1937, v117, p. 485-490; and J. of Biol. Chem., 1937, v120, p. 503-510) and Emken (Am. J. Clin. Nutr., 1994) in view of Jones (Am. J. Physiol. Endocrinol. Metab., 2001)

Claims 1-32, 34, 35, and 37-43 are currently rejected under 35 U.S.C. 103(a) as being obvious over the combination of each Rittenberg and Emken in view of Jones.

Claim 1 has been amended to clarify that the method comprises detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. None of the references or combination of references teaches or suggests detecting an abundance of one or more mass isotopomers of  $^2\text{H}$ -labeled water, and applying combinatorial analysis to determine the

metabolism of one or more sugars or fatty acids in an individual as claimed in the present application. Therefore, there would be no motivation to combine the references and no expectation of success in combining the cited references to produce the claimed invention. Applicant respectfully requests that this basis for rejection be withdrawn.

#### **Claim Rejections – 35 U.S.C. 112 – Second Paragraph**

Claims 25-27 are currently rejected under U.S.C. 112 – second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner noted that claims 25-27 are directed to protein and DNA which fail to further limit claim 1 which is directed to fatty acids and sugars only. Applicant presumes that the basis for the Examiner's rejection is that protein and DNA are outside of the scope of fatty acids and sugars. However, Applicant notes that claims 25 and 26 depend from claim 13, which comprises the additional step of measuring  $^2\text{H}$  incorporation or a ratio of  $^2\text{H}$  incorporation into one or more chemical compositions selected from the group consisting of glucose, glycogen, glycerol-triglyceride, triglyceride fatty acid, proteins, and DNA. Claim 25 further limits claim 13 by reciting that "said chemical composition is a protein," and claim 26 further limits claim 13 by reciting that "said chemical composition is DNA." Claim 27 has been amended to correctly depend from claim 26. Applicant respectfully requests that this basis for rejection be withdrawn.

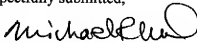
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection

with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **416272005200**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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